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09/854,367	05/11/2001	Sukun Zhang	CHR-99-14CIP1	1282

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Daniel B. Reece IV
Westvaco Corporation
5255 Virginia Avenue
Post Office Box 118005
Charleston, SC 29423-8005

EXAMINER

CHAN, SING P

ART UNIT

PAPER NUMBER

1734

DATE MAILED: 04/30/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/854,367

Applicant(s)

ZHANG, SUKUN

Examiner

Sing P Chan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1 and 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: drawing should not be part of the specification but in a separate section. The specification recites the release coating weight should be 0.7 to 3.0 dry pounds of release coating composition per square foot of paper or preferably 1.0 to 2.0 dry pounds of release coating composition per square foot of paper. (See Specification, Page 12, lines 16-190 However, the tables in the examples recite the coating weight of the release coating as dry pounds of release coating composition per 1000 square feet of paper. (See Specification, Page 19, lines 5-6 and Page 22, lines12-13) The examples' coating weight is more reasonable and is considered to be correct.

Appropriate correction is required.

Claim Objections

2. Claims 17 and 18 are objected to because of the following informalities: The claims recite the coating weight of the release coating as "dry pounds of coating composition per square foot." However, the specification also recites the coating weight as "dry pounds of release coating composition applied per 1000 square feet," (See Specification, Page 19, lines 5-6 and Page 22, lines12-13) it is unclear which the applicant is intended to claim. For the purpose of examination, "dry pounds of release coating composition applied per 1000 square feet" will be assumed. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what is applicant intended with the claim reciting a "method of claim 7." For the purpose of examination, "method of claim 6" will be assumed.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-14 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prawdzik et al (U.S. 4,689,102) in view of Esser (U.S. 5,498,659) and Shah et al (U.S. 6,429,247).

Regarding claims 1-3, Prawdzik et al discloses a method of forming a conventional high pressure laminate with several layers of core stock impregnated with thermosetting resin, decorative sheet, and release sheet with a release coating inserted between the sheet assemblies to ensure separation of the assemblies from each other. (Col 3, lines 50-62, Col 4, lines 18-41, and Col 6, lines 30-41) Prawdzik et al does not disclose the composition of the release coating. However, release coating composition

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with 10% to 20% by weight of a mixture of water dispersible stabilizing polymer, 40% to 90% by weight of vinylic monomers, up to 20% by weight of fatty acids with an acid number of at least 100, 3% by weight of surfactants, a polymerization initiator, and water are well known and conventional as shown for example by Esser and Shah et al. Esser discloses a composition for coating such as floor polishes, paints, adhesive, and finishes and treatments for paper such as release coating depending on the amount of ingredients used. (Col 5, lines 16-59) The composition includes two polymeric ingredients with an acid number of 50 to 150, (Col 7, lines 13-37) initiator, (Col 8, lines 1-13) combination of surfactants, which includes fatty acid, (Col 8, lines 15-64) aqueous carrier, and chain transfer agent. (Col 8, lines 1-14) Esser is silent as to the amount of each ingredients are used but one reading Esser would appreciate using the proper amount of each ingredients, which is well known and conventional as shown for example by Shah et al. Shah et al discloses a coating composition for functional paper coating, (Col 1, lines 27-33) which is considered to include release coating. The composition includes 5% to 90% by weight of a rosin-fatty acid vinylic polymer reactant form by combining 20% to 60% by weight of fatty acid rosin mixture with 10% to 90% by weight of fatty acid and is considered to has an acid number above 100 and 10% to 90% by weight of rosin, with a monomer mixture form by combining 15% to 45% of monomer mixture of acrylic acid, methacrylic acid, fumaric acid, maleic anhydride, 55% to 85% by weight of monomer mixture of vinylic monomers, 4% by weight of chain transfer agent, and 0.5% to 5% by weight of polymerization initiator; 10% to 95% by weight of vinylic monomers, 0.5% to 4% by weight of polymerization initiator, up to 4%

by weight of chain transfer agent, up to 4% by weight of surfactant and distilled water.
(Col 6, line 59 to Col 7, line 39 and Col 12, lines 37-41)

It would have been obvious to one skilled in the art at the time the invention was made to provide a release coating composition as disclosed by Esser and Shah et al in the method of Prawdzik et al to provide an easy release coating for the release sheet to allow easy separation of the laminated assembly.

Regarding claims 4-7, Prawdzik et al does not disclose the vinylic monomer in the non-emulsion polymerization reaction or the emulsion polymerization reaction include styrenic monomers, acrylic monomers, methacrylic monomers, and ethylenic monomers, which includes acrylic acid, isopropyl methacrylate, crotonic acid, maleic anhydride, etc. Shah et al discloses the vinylic monomer for both non-emulsion polymerization reaction and emulsion polymerization reaction include styrenic monomers, acrylic monomers, methacrylic monomers, and ethylenic monomers which includes acrylic acid, isopropyl methacrylate, crotonic acid, maleic anhydride, etc. (Col 9, line 46 to Col 10, line 46)

It would have been obvious to one skilled in the art at the time the invention was made to provide vinylic monomer as disclosed by Shah et al in the method of Prawdzik et al to provide an easy release coating for the release sheet to allow easy separation of the laminated assembly.

Regarding claim 8, Prawdzik et al does not disclose the fatty acid contain 12 to 21 carbon atoms. Shah et al discloses the fatty acid used in the composition includes carbon atoms ranged from 12 to 24. (Col 9, lines 14-16)

It would have been obvious to one skilled in the art at the time the invention was made to provide fatty acid, which contains carbon atoms ranged from 12 to 24 as disclosed by Shah et al in the method of Prawdzik et al to provide an easy release coating for the release sheet to allow easy separation of the laminated assembly.

Regarding claim 9, Prawdzik et al does not disclose chain transfer agent includes dodecyl mercaptan, mercaptoacetic acid, mercaptopropionic acid, octyl mercaptan, 2-mercaptoethanol, and alkyl mercaptopropionates. Shah et al discloses chain transfer agent includes dodecyl mercaptan, mercaptoacetic acid, mercaptopropionic acid, octyl mercaptan, 2-mercaptoethanol. (Col 11, lines 13-22)

It would have been obvious to one skilled in the art at the time the invention was made to provide chain transfer agent, which included dodecyl mercaptan, mercaptoacetic acid, mercaptopropionic acid, octyl mercaptan, 2-mercaptoethanol as disclosed by Shah et al in the method of Prawdzik et al to provide an easy release coating for the release sheet to allow easy separation of the laminated assembly.

Regarding claim 10, Prawdzik et al does not disclose nonionic surfactant includes ethoxylated alkylphenols, ethoxylated fatty alcohols, ethylene oxide/propylene oxide block copolymers. Shah et al discloses nonionic surfactant includes alcohol ethoxylates, alkylphenol ethoxylate, phenol ethoxylated, block copolymers. (Col 11, lines 53-56)

It would have been obvious to one skilled in the art at the time the invention was made to provide nonionic surfactant such as alkylphenol ethoxylate as disclosed by

Shah et al in the method of Prawdzik et al to provide an easy release coating for the release sheet to allow easy separation of the laminated assembly.

Regarding claim 11, Prawdzik et al does not disclose anionic surfactant such as alkyl sulfates, ether sulfates, phosphate esters, and sulfonates. Shah et al discloses the anionic surfactant includes alkyl sulfates, ether sulfates, phosphate esters, and sulfonates. (Col 11, lines 50-52)

It would have been obvious to one skilled in the art at the time the invention was made to provide anionic surfactant such as alkyl sulfates, ether sulfates, phosphate esters, and sulfonates as disclosed by Shah et al in the method of Prawdzik et al to provide an easy release coating for the release sheet to allow easy separation of the laminated assembly.

Regarding claims 12-14, Prawdzik et al does not disclose polymerization initiator. Shah et al disclose using both thermal initiator and redox initiator such as t-butyl peroxide, t-butyl peroxybenzoate, t-butyl peroctoate, cumene hydroperoxide, azobisisobutyronitrile, and benzoyl peroxide in the amount of 0.5% to 5% of the total weight of the monomer mixture. (Col 10, lines 47-57)

It would have been obvious to one skilled in the art at the time the invention was made to provide polymerization initiation, either thermal or redox initiators such as t-butyl peroxide, t-butyl peroxybenzoate, t-butyl peroctoate, cumene hydroperoxide, azobisisobutyronitrile, and benzoyl peroxide in the amount of 0.5% to 5% of the total weight of the monomer mixture as disclosed by Shah et al in the method of Prawdzik et

al to provide an easy release coating for the release sheet to allow easy separation of the laminated assembly.

Regarding claims 19 and 20, Prawdzik et al does not disclose the pH of the release coating is about 7.0 to 11. Shah et al discloses the resulting coating composition has a pH of 8.5. (Col 12, lines 59-62)

It would have been obvious to one skilled in the art at the time the invention was made to provide coating composition with a pH of about 8.5 as disclosed by Shah et al in the method of Prawdzik et al to provide an easy release coating for the release sheet to allow easy separation of the laminated assembly.

7. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prawdzik et al (U.S. 4,689,102) in view of Esser (U.S. 5,498,659) and Shah et al (U.S. 6,429,247) as applied to claim 1 above, and further in view of Bishop (UK 1,260,477).

Regarding claims 15 and 16, Prawdzik et al as modified above discloses the release coating includes various stearates, waxes, or oils. (Col 7, lines 60-68) Prawdzik et al is silent as to the amount of these materials in the release coating. However, providing the required amount of the materials such as 0.1% to 30% or 0.5% to 15% of stearates, waxes, or oil in the release coating is well known and conventional as shown for example by Bishop. Bishop discloses release coating of polymer comprising polymethyl methacrylate, polyvinyl acetate and vinyl acetate/acrylic copolymers with a natural or synthetic wax. (Page 1, lines 34-46) The wax is in the amount of 10% to 30% by weight of the total composition. (Page 1, lines 60-81)

It would have been obvious to one skilled in the art at the time the invention was made to provide stearates, waxes, or oil in the release coating in the amount of 10% to 30% by weight as disclosed by Bishop in the method of Prawdzik et al to provide an easy release coating for the release sheet to allow easy separation of the laminated assembly.

8. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prawdzik et al (U.S. 4,689,102) in view of Esser (U.S. 5,498,659) and Shah et al (U.S. 6,429,247) as applied to claim 1 above, and further in view of Dabroski (U.S. 4,513,059).

Prawdzik et al as modified above is silent as to the coat-weight of the release coating ranged from 0.7 to 3.0 or 1.0 to 2.0 dry pounds per 1000 square feet of paper. However, providing a release coating with a coating-weight of 0.7 to 3.0 to 1.0 to 2.0 dry pounds per 1000 square feet of paper is well known and conventional as shown for example by Dabroski. Dabroski discloses a release coating with water based film forming polymer such as melanine-formaldehyde composition, vinyl acetate latex, carboxylated vinyl acetate-ethylene terpolymer latex, and water reducible acrylic latex and is coated onto paper with a dry weight of 0.2 to 0.4 ounce per square yard, which is 1.4 to 2.8 dry pounds per 1000 square feet of paper. (Col 2, lines 12-45)

It would have been obvious to one skilled in the art at the time the invention was made to coating the release sheet with the release coating with a coating weight of 0.7 to 3.0 or 1.0 to 2.0 dry pounds per 1000 square feet of paper as disclosed by Dabroski

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in the method of Prawdzik et al to provide an easy release coating for the release sheet to allow easy separation of the laminated assembly.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sing P Chan whose telephone number is 703-305-3175. The examiner can normally be reached on Monday-Friday 7:30AM-12:00PM and 1:00PM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 703-308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Sing P Chan
Examiner
Art Unit 1734

spc
April 28, 2003



RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700